



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,633	06/03/2005	Christopher Temple	SC12418EM	4941
34814 7590 05/17/2010 LARSON NEWMAN & ABEL, LLP 5914 WEST COURTYARD DRIVE SUITE 200 AUSTIN, TX 78730				
EXAMINER				
CHRISS, ANDREW W				
ART UNIT		PAPER NUMBER		
2472				
MAIL DATE		DELIVERY MODE		
05/17/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/537,633

Applicant(s)

TEMPLE ET AL.

Examiner

Andrew Chriss

Art Unit

2472

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 11/12/2009

DETAILED ACTION

Response to Amendment

1. Applicant's amendment, filed February 23, 2010, has been entered and carefully considered. Claims 1-3 are currently amended, and Claims 1-20 are currently pending.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on November 12, 2009 was filed after the mailing date of the Non-Final Rejection on September 2, 2009. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

3. **Claims 1-3** are objected to because of the following informalities: Examiner recommends revising claim language "to suspend increment of the communication slot number" to language such as "to suspend the increment of the communication slot number," "suspend incrementing the communication slot number," or similar phrasing.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. **Claims 1-20** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Regarding Claims 1, 2, and 4-12, Claims 1, 2, 8, 10, 12, as filed on June 24, 2009, recite the newly added claim limitation "when in use," implying a mode of operation for the claimed communication nodes, a receiver, and a transmitter. However, Applicant's specification does not provide explicit or inherent support for this mode of operation, and therefore constitutes new matter. Claims 4-7, 9, and 11 are rejected due to their dependence on the rejected claims above.

Regarding Claims 1-20, the newly added claim limitations "time unit" and "sub-time unit" in independent Claims 1-3 is not defined in Applicant's specification, as originally filed, and therefore constitutes new matter. For purposes of examination, Examiner assumes that "time units" and "sub-time units" refer to timeslots and sub-time slots, respectively. Claims 4-20 are rejected due to their dependence on the independent claims.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. **Claims 1-10 and 12-19** are rejected under 35 U.S.C. 102(b) as being anticipated by Belschner et al (FlexRay Requirements Specification, already on record and provided by Applicant with the IDS filed June 3, 2005), hereinafter Belschner.

Regarding Claim 1, Belschner discloses a plurality of communication nodes, each node being arranged to communicate frames of data with other nodes of the plurality of communication nodes (Section 2.2, wherein multiple nodes communicate with one another) during a dynamic section associated with communication of dynamic communication slots (Figure 4, wherein nodes communicate during slots in a dynamic segment of a communication cycle), and each dynamic communication slot having a communication slot number (Figure 4, wherein each of the slots in the dynamic segment are associated with a number); wherein each of the plurality of communication nodes is arranged to communicate, when in use, in accordance with a time base comprising consecutively elapsing time units associated with the dynamic communication slots (Figure 4), each consecutive time unit of the base comprising at least two elapsing sub-time units and a transmission action point located at a boundary between two of the at least two sub-time units (section 3.2, page 16, wherein the current communication cycle is determined by a cycle number; and Section 3.3.1, page 18, wherein each FlexRay frame comprises a CRC code at the end of the frame), wherein the each of the plurality of communication nodes is arranged to start and end, when in use, transmission of each frame of data at the transmission action point associated with the time base (Figure 7, wherein the CRC code denotes the end of one frame and therefore the beginning of a separate frame); and a counter arranged to determine a communication slot number operable to increment the communication slot number if no communication is ongoing at the end of a dynamic communication slot and to suspend incrementation of the communication slot number if communication is ongoing at the end of the dynamic communication slot (Section 2.4, Section 3.2.2, and Figure 4, wherein the dynamic segment offers collision-free access to the

communication medium and frame length in the dynamic segment is variable). **Claims 2 and 3** comprise substantially the same limitations as Claim 1, claimed as a communication node and a method, respectively.

Regarding Claim 4, Belschner discloses the time base associated with static communication slots (Figure 4 and Section 3.2.1, wherein the static segment comprises static time slots).

Regarding Claims 5 and 14, Belschner discloses a predetermined number of timeslots utilized in respect of each static communication slot (Section 3.2.1, wherein a number of slots is set between a minimum and a maximum).

Regarding Claim 6 and 15, Belschner discloses a dynamically allocated number of timeslots utilized in respect of each dynamic communication slot (Section 3.2.2, wherein the dynamic segment of the communication cycle consists of zero or more slots).

Regarding Claim 7 and 16, Belschner discloses each dynamic communication slot in which frame transmission takes place is divided into alternating matching and mismatching time slots, the matching time slots being valid transmission slots (Section 3.2.2, wherein a media access strategy in the dynamic segment is based on wait times and priority of identifiers and controllers transmitting frames with higher priority identifiers send before controllers transmitting lower priority frames; and Section 3.8.3.1, wherein a start-of-frame (SOF) window is placed around the expected receive time of an SOF).

Regarding Claim 8 and 17, Belschner discloses each node comprising a receiver to set, when in use, a current communication slot number in response to whether a communication start

is detected in a matching or mismatching time slot (Section 3.8.3.3, wherein a receiver applies a calculated clock correction term to the local clock).

Regarding Claim 9 and 18, Belschner discloses each node having an associated communication slot number and is operable not to transmit in dynamic communication slots having communication slot numbers different than the associated communication slot number (Section 3.2.2, wherein a media access strategy in the dynamic segment is based on wait times and priority of identifiers and controllers transmitting frames with higher priority identifiers send before controllers transmitting lower priority frames).

Regarding Claim 10 and 19, Belschner discloses each node comprising a transmitter to extend, when in use, a transmission to a transmission action point (Figure 7, wherein the CRC code denotes the end of one frame and therefore the beginning of a separate frame).

Regarding Claim 12, Belschner discloses each node comprising a receiver to adjust, when in use, the time base in response to a frame identity of a frame being communicated in a dynamic communication slot (Section 3.8.3.3, wherein a receiver applies a calculated clock correction term to the local clock).

Regarding Claim 13, Belschner discloses the time base associated with static communication slots (Figure 4 and Section 3.2.1, wherein a communication cycle comprises a static segment subdivided into a sequence of time slots).

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. **Claims 11 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Belschner in view of Gee et al (United States Patent 5,537,549), hereinafter Gee. Belschner discloses all of the limitations of Claims 10 and 19, as described above. However, the Belschner does not disclose the transmission of a busy signal. In the same field of endeavor, Gee discloses a TDMA system wherein a TX BUSY signal is transmitted as a transmit indicator (column 13, lines 26-28). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the busy signal transmission disclosed in Gee with the FlexRay system disclosed in Belschner in order to provide clock synchronization among separate stations connected to a network.

Response to Arguments

10. Examiner notes that in response to Applicant's arguments regarding objection to Claim 1, the period inside the quotes is intended to end the sentence describing the objection and is not intended to reflect the recommended revision to the claim language.

11. Applicant's arguments filed February 23, 2010 regarding rejection of Claims 1-20 under 35 U.S.C. 112, first paragraph, for failing to comply with the written description requirement have been fully considered but they are not persuasive. Applicant states that the claimed nodes are "electrically powered," the "communication node has a powered-down (unused) and a powered-up (used) state," and that "(a) person skilled in the art would readily appreciate this fact and understand that when unused, the communication node would be unable to operate as recited in the claims 1, 2, and 14-20." Examiner respectfully disagrees. Examiner notes that Applicant's specification does not describe how the device is powered and that modes of

Art Unit: 2472

operation do not necessarily need to be limited to power-on or power-off state, as alleged by Applicant. Per MPEP 2163: “While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure. An amendment to correct an obvious error does not constitute new matter where one skilled in the art would not only recognize the existence of the error in the specification, but also recognize the appropriate correction. In re Oda, 443 F.2d 1200, 170 USPQ 268 (CCPA 1971).” As the claim limitation does not appear to be expressly, implicitly, or inherently supported by the specification as originally filed, Examiner submits that one of ordinary skill in the art would not recognize the existence of an error in the specification regarding the operation of the claimed node. Applicant further states that “as time slots are simply notionally elapses of clocks or units of time, it is submitted that the replacement of the term ‘timeslots’ with the term ‘time unit’ is acceptable and preferable in order for the language of the claim to more consistent with the recitals relating to the time base” and that “the same principle applies to the replacement of “sub-time slots” with “sub-time units.” Examiner notes that Applicant’s alleged definition of “timeslot” is not supported by the specification, as originally filed. Further, as Applicant’s specification is silent with regard to the alleged definition of “timeslot,” it therefore is silent as to how the scope of the claim language would be impacted by the revision from “timeslot” to “time unit.” Therefore, as Applicant has not reasonably shown that “timeslot” and “time unit” convey the same definition based on the express, implicit, or inherent disclosure, as originally filed, the phrase “time unit” comprises new matter. Examiner submits that the same reasoning applies to the phrase “subtime unit.” Rejection of Claims 1-20 under 35 U.S.C. 112, first paragraph, for failing to comply with the written description requirement is maintained.

12. Applicant's arguments, filed November 18, 2009, with respect to rejection of Claim 2 under 35 U.S.C. 112, first paragraph, as comprising undue breadth have been fully considered and are persuasive. The rejection of Claim 2 under 35 U.S.C. 112, first paragraph, as comprising undue breadth has been withdrawn.

13. Applicant's arguments filed February 23, 2010 regarding rejection of Claims 1-10 and 12-19 under 35 U.S.C. 102(b) have been fully considered but they are not persuasive. Applicant states that "the term 'time base' is one that is widely used across many fields of endeavor, but rarely recorded in writing" and that "(t)he skilled person would nevertheless understand that a time base is a measure of a unit of time that is consistent for the sake of measuring elapse of time." However, per MPEP 2111.01: "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application...In the absence of an express intent to impart a novel meaning to the claim terms, the words are presumed to take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art."). It is the use of the words in the context of the written description and customarily by those skilled in the relevant art that accurately reflects both the "ordinary" and the "customary" meaning of the terms in the claims. *Ferguson Beauregard /Logic Controls v. Mega Systems*, 350 F.3d 1327, 1338, 69 USPQ2d 1001, 1009 (Fed. Cir. 2003)." Without acquiescing to Applicant's proposed definition of time base, Examiner notes that Applicant's disclosure, as originally filed, recites "Each node includes a synchronized time base...made up of consecutive timeslots" (see Abstract). Therefore, when given its broadest reasonable interpretation in light of the specification, Examiner submits that a time base may be interpreted to comprise consecutive

time slots. As such, the disclosure in Belschner of a communication cycle comprising consecutive time slots (Figure 4) reads on the broadest reasonable interpretation of the term “time base.” Applicant further states that “Belschner et al fails to teach that each consecutive time unit of the base comprises a transmission action point located at a boundary between two of at least two sub-time units, and that...each node is arranged to start and end, when in use, transmission of each frame of data at the transmission action point associated with the time base.” Examiner respectfully disagrees. Examiner notes that the association between the claimed “transmission action point” and the claimed “time base” is not described in the claim language so as to require a certain relationship between the claimed entities. Further, the claimed transmission action point is not further defined in the claim language. As such, Examiner has given the claim language its broadest reasonable interpretation without importing limitations from the specification. Belschner discloses, at Figure 7 and Section 3.3.1, page 18, that each FlexRay frame comprises a CRC code at the end of the frame that separates each frame from one another. Therefore, a CRC code is appended to the header and data and transmitted prior to the start of the next frame. Further, as the FlexRay frames are transmitted according to the time slots (Figure 4), the CRC code is therefore associated with the timebase, as the CRC code is attached to the frame transmitted within the time slots. Applicant further states that Belschner does not disclose a counter arranged to determine a communication slot number. Examiner respectfully disagrees. Belschner discloses, at Section 2.4, tracking the maximum number of time slots in a static segment of communication. Further, at Section 3.2.2 and Figure 4, Belschner discloses a dynamic segment of a communication cycle, that although the number assigned to individual time slots increases, the time slot number stays the same while

communication is ongoing during an assigned time slot (see slot 10, which is longer in duration than slots 7 and 8). Therefore, the increment of the time slot number is suspended while communication is ongoing. Rejection of Claims 1-10 and 12-19 under 35 U.S.C. 102(b) is therefore maintained.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Chriss whose telephone number is (571)272-1774. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Chriss
Examiner
Art Unit 2472
5/10/2010

/William Trost/
Supervisory Patent Examiner, Art Unit
2472

/A. C./
Examiner, Art Unit 2472